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DEFENCE AGAINST CHOLERA,

AND OTHER

PREVENTABLE DISEASES.

THE DUTY OF CITIZENS AND LOCAL HEALTH BOARDS

IN

MEASURES OF PREVENTION.

PRESENTED BY

THE STATE BOARD OF HEALTH OF WISCONSIN,

MAY, 1885.

"Panic is born of a vague terror of the unknown, and has no relationship to that clear comprehension of a source of possible danger and the means of avoiding it which promotes calmness and justifies confidence."



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PREVENTABLE DISEASES.

Those who have most thoroughly studied the history of Cholera, and are therefore best informed concerning it, are practically united in the belief that it will appear in this country during the present year. Should it do so we have no reason to suppose that Wisconsin will remain exempt from it unless we secure exemption by our own exertions. These exertions will not be lost if Cholera does not come, for the sanitary measures which will prevent it, are the best safeguards against other diseases also.

Of some things respecting Cholera we may be certain. Among these are the facts that though it cannot originate in Wisconsin, it may at any time be brought to us in the persons of those affected by it, or more probably in the soiled clothing and bedding of those who have had it. If in any place to which it may come it finds a soil fitted for its development, its progress will be that of an epidemic, striking terror to the whole community and completely paralyzing business therein. If through possible and proper sanitary precautions it finds no such soil, it will die for lack of food in the households to which it may first be brought. Such has so often been its history that neither the State or municipalities or private citizens can afford in the face of present warnings to be idle now. It is true that the disease may not come to us. It is equally true that it is liable to come and that we are not now ready to meet it. To wait is to lose the golden opportunity for its prevention.

If the disease should come it will then be too late to commence the work of preparation. Effective sanitary operations *can* be carried on now; in the presence of Cholera they *cannot*.

In view of these facts and of our advanced knowledge of the ways in which Cholera and other diseases may be prevented, it is the full belief of the State Board of Health that never before has so great a responsibility rested on both Boards of Health and on individual citizens, and that to a large extent the people will themselves be responsible for the presence of Cholera should it prevail, unless they observe such measures as are best adapted to prevent it, and unless they give also the full weight of their influence in favor of the work necessary to be done by organized health boards. Such measures are within our power, but to secure their benefits *they must be adopted promptly; they must be thorough, and they must be continuous*. A spasmodic cleaning of premises is not sufficient, but cleanliness having been secured, must be unceasingly maintained, and

IN THIS WORK ALL MUST HELP.

Health Boards have their own peculiar duties and private citizens have theirs also, but these duties do not conflict, and each class should be helpful to the other. It should be well and distinctly understood at the outset that such thorough work as is herein contemplated costs time, and labor, and money, and the question of cost should be wholly subordinated to that of thoroughness. What the private citizen can not or will not do, should everywhere be supplemented by what is done by health boards and sanitary organizations. The executive officers of such boards should be selected for promptness and faithfulness, and for intelligent acquaintance with the necessary work. They should be invested with ample, and if circumstances require it, with seemingly arbitrary powers; they must be supplied with money to pay for the work done and they should themselves be liberally paid for their services, their labors being regarded as for the mutual insurance of all citizens against disease and death. There can in fact be no real security that sanitary work is

well done without the intelligent oversight of an official vested with ample powers to compel it to be done, for, however thoroughly one may cleanse his own premises, he is at the mercy of his less careful or less liberal neighbor, who may disregard all precautions. Filth, foul odors, and polluted water supplies are no respectors of persons, and no virtue or carefulness can save one from the consequences of his neighbor's sanitary sins.

In many cases it is believed that simple ignorance of what is needed to be done, and of what can be done, is the sole or at least the chief thing that stands in the way of its accomplishment. It is with the view of pointing out these clearly and as authoritatively as possible, that the following suggestions are made by the State Board of Health, and their adoption is urgently recommended:

WHAT THE HOUSEHOLDER SHOULD DO.

This is by far the most important part of the work of defence from disease, the part, in fact, without which all else will, in most cases, prove futile. In-doors, the cellar should first be looked after; all decaying and germinating vegetables should be removed therefrom with all accumulations of rubbish of every kind, and the whole should be destroyed by burning, or removed to the compost heap to be carted away. The cellar walls should be whitewashed with fresh lime, and every possible facility should be given for the entrance of fresh air and sunshine. If it be not thoroughly dry and free from odors, the drainage must be carefully looked after and corrected, until dryness and purity of air is secured. The cellar is too often left damp, dark and the receptacle of many things that favor disease in the household, because of mere thoughtlessness. It is known that milk and many other articles of food absorb odors and the germs of disease very readily, and in this way the decaying contents of the cellar may find entrance into the systems of the dwellers in the house above.

The wood-shed and all storage rooms next need attention and the same careful removal of all unhealthful rubbish that has been practiced in the case of the cellar, is to be ob-

served here also. If in the house there are any rooms that are dark and damp, let them be especially looked to. If to admit fresh air and sunshine freely it be necessary to remove a partition, to enlarge a door-way or to cut a new window in any such room, it will be the best economy and in the interest of health to do so. There are no purifiers or disinfectants that can take the place of fresh air and sunlight, and no room from which they are excluded can be healthful. Many a room has been changed from an unhealthy to a wholesome living apartment by such simple means as these, and by the removal of dense foliage which prevented the free entrance of nature's disinfectants.

Out of doors not less care should be taken of the back yard than is taken of the front yard; both should be made and kept *clean*. All accumulations of rubbish, filth or refuse should be removed from the premises wholly and burned, or so disposed of that no harm to the neighbors can result therefrom. The condition of the drains should be examined; care should be taken to see that they are unobstructed, and that they are ventilated by a free opening into them *outside of the house*. Cesspools should not be tolerated at all if it be possible to avoid their use. If they are absolutely necessary they should be so constructed as to be water-tight, so that leakage into the surrounding soil, and later, into the well, may be prevented. At proper intervals their contents should be wholly removed, but during the heated season it will probably be wiser to have them frequently and effectively disinfected, but not otherwise disturbed. The contents of the privy vault should be disinfected and removed, and the vault should be again disinfected after cleansing. It would be an immense stride toward a better sanitation if privy vaults were everywhere abolished, and water-closets substituted wherever practicable, the dry earth system being employed elsewhere. This should certainly be done in all thickly settled localities, for in them the privy vault is almost certain to be in dangerous proximity to the well. No expensive appliances are necessary; simply have no vault whatever, but put a large pail under the seat, and cover each deposit plentifully with fine, dry earth or with coal

(not wood) ashes. This is the whole principle of even the most expensive earth-closet arrangements, and nothing more than this is needed. Dry earth used in this way is a perfect deodorizer, and the contents of the pail may be handled without offense, and used as a garden fertilizer. The only essential things are that the earth be *dry* and in *fine powder*, and that it be used in quantity sufficient to absorb all moisture.

All other outbuildings, such as barns, stables, pig-pens, cow-sheds and the like, need of course such careful attention to cleanliness as will keep them free from offence to sight and smell;* fresh lime whitewash should be frequently applied; the refuse should be so disposed of daily as to create no offence.

But all these things being done, there yet remains one other matter to be looked after with most anxious care—the channel through which it is believed that disease germs most frequently gain entrance to the system, and the unsuspected source of many cases of sickness,—the water supply. In by far the greater majority of cases the well is the reliance of the people of Wisconsin, and the condition that exists in most villages and cities having no water supply is truthfully described as follows: In the small area of the back yard there are “three holes in the ground, one for a cess-pool, one for the privy vault and one for the well.” Each of these drains the ground for a certain distance around it, the area of drainage differing in different soils and with the depth of the excavation. The well, being the deepest of these excavations, too frequently receives the drainage of both the others, and it is a serious mistake to believe that such drainage is purified by its passage through the soil.

* NOTE.—The difficulty of keeping pig-pens in a cleanly and inoffensive condition is so great, and they are so liable to become nuisances even when unusual care and attention is given to them, that they should be tolerated only in places where the residents are comparatively few in number or where they can be sufficiently removed from all dwellings. If allowed at all in cities, villages, or other thickly populated localities they should be most carefully regulated with regard to the number of animals kept in them and the condition in which they are maintained.

It may be freed from suspended matters and thus rendered clear to the eye, but chemical tests, and disease resulting from its use, show that the water into which it has found its way is unsafe and dangerous. In fact, the presumption in regard to the water from wells in all cities and villages is that it is unfit for use, and the circumstances of its being bright, clear and palatable afford no evidence to the contrary. During the prevalence of any form of Diarrhoeal disease, and especially if there be anything like Cholera in the country, no water from any well should be used without being previously boiled.* Boiled water is insipid to the taste, it is true, but it may easily be rendered palatable by the addition of some acid or by being made into a weak tea.

Finally, the private citizen, having thus cared for his own premises, putting and keeping them in conditions of most scrupulous cleanliness, has only to insist that his neighbor shall exercise similar precautions, and to encourage and assist the health authorities, both local and general, in the performance of the work committed to their charge, in order to bring about the results of such work, which will be immunity from such unnecessary sickness of all kinds, a diminished death-rate, and a feeling of security that though Cholera or other disease may be brought to the community wherein such work is done, it can (if that work be supplemented by careful attention to personal cleanliness) find no fitting soil for development, and that hence its visitation will be light and its duration brief.

WHAT LOCAL HEALTH BOARDS SHOULD DO.

The law specifically requires the organization of such a board in every town, village and city of the state. To this rule there are no exceptions, and every board organized is required to appoint a health officer within ten days from the time of organization, and to report his name and address to the State Board of Health immediately, thus forming a medium of communication between the state and local boards.

* NOTE.— It will be understood, of course, that the ordinary dug or bored private well is here referred to, and not the deep Artesian wells such as furnish the water supply for some of our towns and cities.

The law directs that, when practicable, the health officer shall be a physician, but wisely leaves it possible to appoint some other person when a physician cannot be appointed. A recent statute emphasizes the relation between the State Board and the local boards of health, and requires the latter to co-operate with the former. The first duty, then, of all town, village and city boards is that of efficiently organizing a local board of health, and reporting the organization with the name and address of the health officer to the State Board of Health, if this has not already been done.

The work of all local health boards should be comprehensive, and at this time of apparent danger, especially thorough. Slaughter-houses and all other business establishments that produce offensive refuse, should be looked after with particular care; all stagnant ponds of water should be drained if possible and filled up; defects in the public sewerage should be corrected, streets and alleys and public thoroughfares should be thoroughly cleaned, and comprehensive health ordinances, requiring the correction of all unsanitary conditions on private premises, should be prepared, published and rigidly enforced. The health officer should be vested with ample powers for these purposes, and in the exercise of these powers he should be sustained not only by the health board but by all good citizens.

In addition to these things, in all incorporated villages and cities, the health board should provide for systematic surveys, by which every house in every part of each such village or city shall be visited, thoroughly examined, and a record of all unsanitary conditions shown by such examination made and kept for future use, upon blank forms suitably prepared for the purpose. Such a record should embody the following facts:

1. Such designation of the place by street and number that it may be identified without the possibility of mistake.
2. A general description of the premises, whether high or low, dry or damp, well drained or not, and facilities for drainage.
3. A general description of the house, whether of wood or brick, in good or bad repair, names of owner and occu-

pants, and, particularly if it be a tenement house, whether over-crowded or not.

4. The general condition of all out-buildings in regard to cleanliness.

5. The source of water supply.

6. A particular account of all existing unsanitary conditions, such as accumulations of garbage, foul cesspools, privy-vaults either full or in bad condition, and the proximity of cess-pool, privy or stable to the well, if any exists.

7. If possible, a record of any form of sickness existing at the time of examination or recently prevalent, especially if any deaths have occurred and if the disease has been of Diarrhoeal Dysenteric, or Typhoid form.

8. The recommendations of the sanitary inspector.

Immediately upon the completion of this inspection the owner or occupant of any premises upon which unsanitary conditions are found to exist, should receive specific directions for their removal or correction, and a reasonable but *limited time* should be assigned within which the improvement is to be effected. At the end of this time, if the directions given have not been carried out, the necessary work should be done by the local health board at the expense of the property. In making such an inspection as is here suggested, especial attention should be paid to the condition of boarding houses, lodging houses and hotels, particularly those of the lower grades, and if at any time Diarrhoeal diseases prevail, all such establishments should be watched and guarded with the most zealous care, and their privies should be disinfected daily.

But besides all this, Local Health Boards have an important duty in regard to newly arrived immigrants who frequently come from a part of the old world where contagious disease has prevailed, bringing with them, more often in their baggage than in their persons, the germs of such disease. A time therefore when such new-comers are sources of the greatest danger is that when they are unpacking their effects, and then, and for several days thereafter they should be under the careful observation of the Health officer, which observation should also extend to any neighbors who may

have been visitors to such family, especially if they have lent help in the unpacking and arrangement of the household effects. Any deviation from perfect health in the newly arrived family or in any visitors to them should be carefully and promptly examined. Persons coming from districts known to be infected with any contagious disease, should be kept under the same careful surveillance until all danger of the development of disease in them or from them has passed.*

At all times the duly appointed health officer should be invested with ample authority to act in any emergency. Should Cholera or other dangerous disease come, there will be then no time to call the health board together for the discussion of plans. These must be definitely decided on beforehand, so that what can be done and what is to be done, shall be clearly understood. If Cholera or Small Pox or other virulent disease appear in a private house, it should be at once quarantined, all well persons whose presence is not absolutely needful therein should be removed, and closely contiguous houses should either be abandoned for the time being or kept under the closest watch. Should death occur the burial of the body should be speedy and private.

DISINFECTION AND DISINFECTANTS.

The term disinfection is used here rather in its popular than in its strict sense. For cleansing premises in the absence of any specific "germs" of disease, the use of those germicides or true disinfectants which would be recommended in the presence of such germs, is not necessary. To deodorize and sufficiently to disinfect privy vaults, cesspools, drains and similar places as a measure of cleanliness the plentiful use of copperas or sulphate of iron, or of chloride of lime (as recommended by the Committee on Disinfectants of the American Public Health Association) will be sufficient. The copperas may be prepared for use by dissolving one and one-half pounds in a gallon of water. The

*NOTE—In either of these cases if it is practicable to disinfect the baggage of such newcomers by fumigating it with sulphur, it would be wise to do so.

chloride of lime may be used either by sprinkling the dry powder freely over any place or material which it is needful to disinfect, or by dissolving one pound in four gallons of water. Of either solution, a sufficient quantity to keep down all offensive odors should be used daily or as often as occasion may require. Fresh lime should not be used. Should Cholera or other virulent disease make its appearance, more powerful and specific disinfectants will be required, and full directions for preparing such and for their safe and efficient use will be published in due season by this Board.

The duty of preparation which devolves upon local health boards, also devolves upon the officers and managers of our state institutions of every kind. Such officers should see that a thorough examination of the buildings under their care is made, and that all unhealthful conditions are removed. The water supply, the sewerage, all matters relating to the disposition of filth or refuse material of any kind should be inspected with a view to the removal of all defects, and the maintenance of the highest and best sanitary conditions. The same duty is incumbent on sheriffs and keepers of jails, upon the heads of reformatory institutions of every kind, to any one of which persons in the incipient stages of disease may be brought at any time. The power of these officers is ample and undoubted for these purposes, and there can be no reasonable excuse if, in or about any such institution there are at any time conditions which favor the development of disease if it should unfortunately be brought to them.

By direction of the State Board of Health.

J. T. REEVE, M. D.,

Secretary.

NOTE.— This circular is printed for gratuitous distribution. Any citizen of the state desiring copies can obtain them by application to the Secretary of the State Board of Health, Appleton, Wisconsin.

